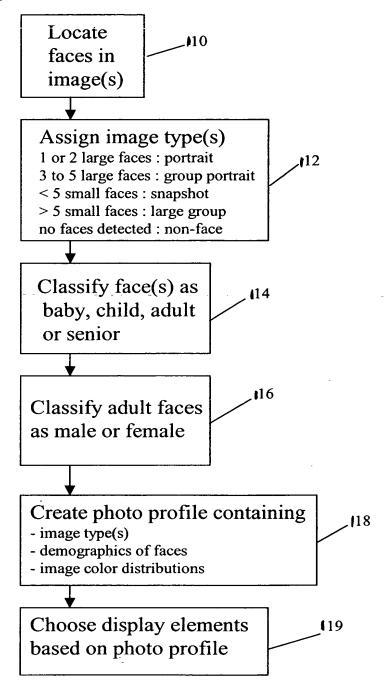


Figure 2





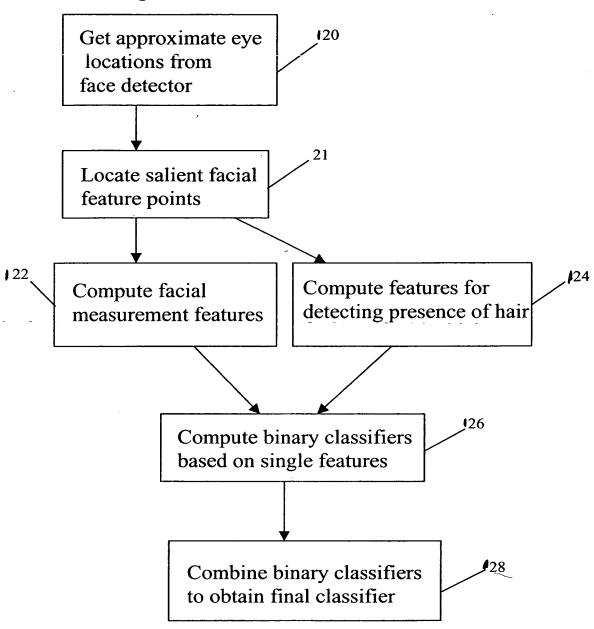


Figure 4

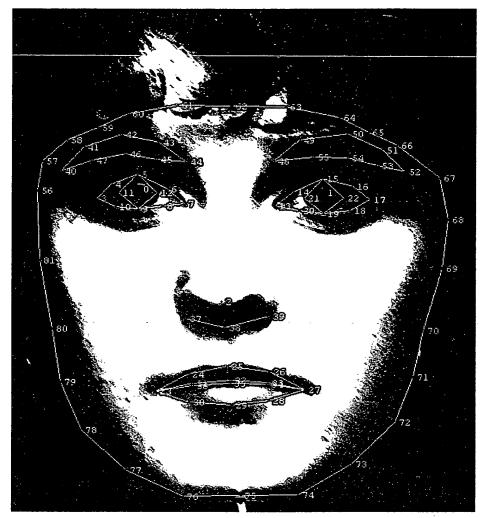


Figure 5

Feature number	Feature name	Calculation	
0	Inter-ocular distance	P1 – P0	
1	Chin angle	Radians subtended by lines P78-P75 and P72-P75	
2	Jaw width	P73 – P77	
3	Mouth width	P27 - P23	
4	Nose width	P39 – P37	
5	Face width	P69 - P81	
6	Distance between eyebrows	P48 - P44	
7	Head width	P67 – P57	
8	Forehead width	Mean (P42 – P60, P50 – P64)	
9	Eyebrow width	Mean (P46 - P42, P54 - P50)	
10	Distance between pupil of eye and bottom of eyebrow	Mean (P0 - P46, P1 - P54)	
11	Cheek width	Mean (P69 - P27, P81 - P23)	
12	Distance between nose and lip	P32 – P2	
13	Thickness of lower lip	P29 – P35	
14	Distance between lip and chin	P75 – P35	
15	Distance from head to chin	P75 - P62	
16	Distance between eye and nose	Mean (P37 - P7, P39 - P13)	
17	Distance between eye and mouth	Mean (P23 – P0, P27 – P1)	
18	Distance between eye and chin	Mean (P75 - P7, P75 - P13)	

Figure 6

Feature number	Significance	Histogram difference used	
19	Checks for presence of beard	Chin patch – cheek patch	
20	Checks for presence of mustache	Upper lip patch - cheek patch	
21	Checks for presence of hair on forehead	Forehead patch - cheek patch	
22	Checks for presence of longer hair	Patch next to ear - head patch	

FIG. 6B

Patch	Bounding box			
	x-start	y-start	width	height
Cheek	P80[x] +1/3 (P37 - P80)	Mean (P9[y], P81[y])	2/3 (P37 – P80)	P80 – P81
Head	P61[x]	P62[y] - height	P63 - P61	P68 – P17
Near ear	P68[x] + width	P68[y]	P68 – P17	P71 – P68
Forehead	P60[x]	Mean (P60[y], P64[y])	P64 – P60	2/3 Feature 8
Above lip	P23[x]	P38[y]	P27 - P23	P38 – P25
Chin	Mean (P30[x], P76[x])	Mean (P75[y], P35[y])	Mean (P28 – P30, P74 – P76)	½ (P75 – P35)

FIG. GA

Figure 7

Image type	Gender	Age	Design themes
Portrait	M, F	S, S	senior couple
Portrait	-	В	baby
Portrait	F, -	A, B	mother-child
Group portrait	F, F, F	C, C, C	girls
Group portrait	M, F, M	S, S, C	grandparents
Large group	Ms, Fs	As, Ss, Cs	traditional
Snapshot	M, F, F	A, A, C	family
Non-face	-	-	abstract

M: male; F: female; S: senior; A: adult; C: child; B: baby; s indicates many

Figure 8

